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PERPENDICULAR MAGNETIC  
RECORDING MEDIA WITH IMPROVED  
*FCC* AU-CONTAINING INTERLAYERS

ABSTRACT OF THE DISCLOSURE

A perpendicular magnetic recording medium, comprising a non-magnetic interlayer structure selected from the group consisting of:

- (1) a structure comprising a layer of a *fcc* Au-containing non-magnetic material having a  $\langle 111 \rangle$  preferred growth orientation and a layer of a different material in overlying or underlying contact therewith;
- (2) a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent a magnetically soft underlayer and having a  $\langle 111 \rangle$  preferred growth orientation; and  $n$  layers of a different *fcc* non-magnetic material having a  $\langle 111 \rangle$  preferred growth orientation, where  $n = 1 - 5$ ;
- (3) a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent a magnetically soft underlayer and having a  $\langle 111 \rangle$  preferred growth orientation; and a layer of a *hcp* non-magnetic material having a  $\langle 0002 \rangle$  preferred growth orientation;
- (4) a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent a magnetically soft underlayer and having a  $\langle 111 \rangle$  preferred growth orientation;  $n$  layers of a different *fcc* non-magnetic material having a  $\langle 111 \rangle$  preferred growth orientation, where  $n = 1 - 5$ ; and  $n$  layers of a *hcp* non-magnetic material having a  $\langle 0002 \rangle$  preferred growth orientation, where  $n = 1 - 5$ ; and
- (5) an  $(fcc)_1/(hcp)_1/(fcc)_2/(hcp)_2$  structure comprising, in overlying sequence, a first *fcc* layer  $(fcc)_1$ , a first *hcp* layer  $(hcp)_1$ , a second *fcc* layer  $(fcc)_2$ , and a second *hcp* layer  $(hcp)_2$ , wherein at least the first *fcc* layer is an Au-containing non-magnetic material.